



Installation Manual
2019 Ford Ranger
3" Lift Kit
Part # 23105

ZS06262019

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2019 Ford Ranger
3" Lift kit

Part #	Description	Qty.
23105-01	Front Strut Top Hat	2
23105-02	Rear Block	2
5U-247S	916" X 2 916" X 9 5/8"	4
916NW	Hardware Bag	1
CB38	Hardware Bag	1
M22706	Poly Bushing	4
S10295	.624" X .500" X 1.728" Sleeve	2
S10305	1.395" X .510" X .125" Washer	4
M12NLN	12 MM Nylock Nut	2
38FLN	3/8 Flange Nut	6

Congratulations on your selection to purchase a Tuff Country EZ-Ride Suspension System. We at Tuff Country EZ-Ride Suspension are proud to offer a high quality product at the industries most competitive pricing. Thank you for your confidence in us and our product.

If you desire to return your vehicle to stock, it is the customers responsibility to save all stock hardware and components.

The Tuff Country EZ-Ride Suspension product safety label that is included in your kit box must be installed inside the cab in plain view of all occupants.

Special note: BEFORE installation begins, it is the customers/installers responsibility to make sure that all parts are on hand. If any parts are missing, please feel free to call one of our customer service representatives @ (801) 280-2777.

Important customer information:

Tuff Country EZ-Ride Suspension highly recommends that a qualified or a certified mechanic performs this installation.

It is the responsibility of the customer/installer to wear safety glasses at all times when performing this installation.

It is the customers/installers responsibility to read and understand all steps before installation begins. If you

have any questions or concerns, please contact our technical department @ (801) 280-2777. Also, the OEM manual should be used as a reference guide.

This vehicles reaction and handling characteristics may differ from standard cars and/or trucks. Modifications to improve and/or enhance off road performance may raise the intended center of gravity. Extreme caution must be utilized when encountering driving conditions which may cause vehicle imbalance or loss of control. **DRIVE SAFELY!** Avoid abrupt maneuvers: such as sudden sharp turns which could cause a roll over, resulting in serious injury or death.

It is the customers responsibility to make sure that a re-torque is performed on all hardware associated with this suspension system after the first 100 miles of installation. It is also the customers responsibility to do a complete re-torque after every 3000 miles or after every off road use.

After the original installation, Tuff Country EZ-Ride Suspension also recommends having the alignment checked every 6 months to ensure proper tracking, proper wear on tires and front end components. Tuff Country EZ-Ride Suspension takes no responsibility for abuse, improper installation or improper suspension maintenance. Usually OE alignment specs are ideal but on these particular kits we like to see the Castor a little bit lower than specs. It will help with tire wear and drivability.

Limited lifetime warranty

Notice to all Tuff Country EZ-Ride Suspension customers: It is your responsibility to keep your original sales receipt! If failure should occur on any Tuff Country EZ-Ride Suspension component, your original sales receipt must accompany the warranted unit to receive warranty. Warranty will be void if the customer can not provide the original sales receipt. Do not install a body lift in conjunction with a suspension system. If a body lift is used in conjunction with any Tuff Country EZ-Ride Suspension product, your Tuff Country EZ-Ride Suspension WARRANTY WILL BE VOID. Tuff Country Inc. ("Tuff Country") suspension products are warranted to be free from defects in material and workmanship for life if purchased, installed and maintained on a non-commercial vehicle; otherwise, for a period of twelve (12) months, from the date

of purchase and installation on a commercial vehicle, or twelve thousand (12,000) miles (which ever occurs first). Tuff Country does not warrant or make any representations concerning Tuff Country Products when not installed and used strictly in accordance with the manufacturer's instructions for such installation and operation and accordance with good installation and maintenance practices of the automotive industry. This warranty does not apply to the cosmetic finish of Tuff Country products nor to Tuff Country products which have been altered, improperly installed, maintained, used or repaired, or damaged by accident, negligence, misuse or racing. ("Racing is used in its broadest sense, and, for example, without regards to formalities in relation to prizes, competition, etc.) This warranty is void if the product is removed from the original vehicle and re-installed on that or any other vehicle. This warranty is exclusive and is in lieu of any implied warranty of merchantability, fitness for a particular purpose or other warranty of quality, whether express or implied, except the warranty of title. All implied warranties are limited to the duration of this warranty. The remedies set forth in this warranty are exclusive. This warranty excludes all labor charges or other incidental or consequential damages. Any part or product returned for warranty claim must be returned through the dealer of the distributor from whom it was purchased. Tuff Country reserves the right to examine all parts returned to it for warranty claim to determine whether or not any such part has failed because of defect in material or workmanship. The obligation of Tuff Country under this warranty shall be limited to repairing, replacing or crediting, at its option, any part or product found to be so defective. Regardless of whether any part is repaired, replaced or credited under this warranty, shipping and/or transportation charges on the return of such product must be prepaid by the customer under this warranty. Important information that needs to be read before installation begins:

This Suspension kit comes with (1) installation manual and some post installation procedure literature and it is the installers responsibility to make sure that the customer receives the post installation procedure literature. If a customer would like a copy of the installation manual, please have them visit our website at www.tuffcountry.com. Have them go to the customer care section to download these instructions. If you have any questions, please feel free to call us at (801) 280-2777.

Before installation begins, Tuff Country EZ-Ride Suspension highly recommends that the installer performs a test drive on the vehicle. During the test drive, check to see if there are any uncommon sounds or vibrations. If uncommon sounds or vibrations occur on the test drive, uncommon sounds or vibrations will be enhanced once the suspension system has been installed. Tuff Country EZ-Ride Suspension highly recommends notifying the customer prior to installation

to inform the customer of these issues if they exist.

Tuff Country recommends using loctite on all new and stock hardware associated with the installation of this suspension system.

Due to the different variation of the stock strut spring rate, height after installation of the spacer may vary. Any questions please feel free to contact Tuff Country or your local Tuff Country dealer.

Tuff Country recommends a 31 x 10.5 sized tire once part # 23105 has been installed. If larger than a 31" tire is installed on your vehicle in conjunction with part # 23105, Tuff Country assumes no liability and the warranty will be VOID. Due to different types of tread patterns, some aggressive tires in this size recommendation may require slight trimming of inner fender plastic. **Our tire and wheel fitments are only a guideline. Different production times or tolerances will vary and this size should only be used as a starting point. Each vehicle is different and will need to be treated as such.**

Recommended tools selection:

- Torque wrench
- Standard socket set
- Standard wrench set
- Metric socket set
- Metric wrench set
- Tape measure
- Hydraulic floor jacks
- Measuring Caliper
- Strut compressor

Please follow these instructions carefully:

Before installation begins, measure from the center of the wheel hub, to the bottom of the fender well, and record measurements below.

Pre-installation measurements:

Driver side front: _____
Passenger side front: _____
Driver side rear: _____
Passenger side rear: _____

At the end of the installation take the same measurements and compare to the pre-installation measurements.

Post-installation measurements:

Driver side front: _____
Passenger side front: _____
Driver side rear: _____
Passenger side rear: _____

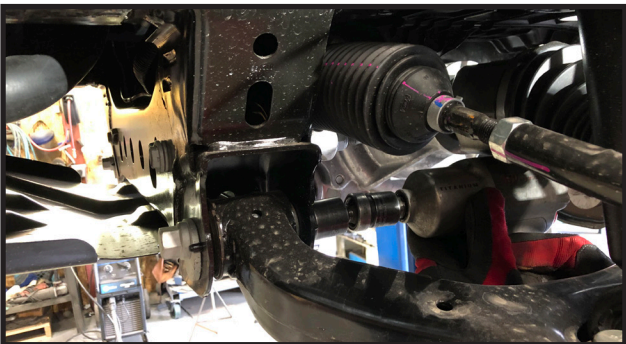
Front end installation:

1. To begin installation, block the rear tires of the vehicle so that the vehicle is stable and can't roll. Safely lift the front of the vehicle and support the vehicle with a pair of jack stands. Place a jack stand on both the driver and the passenger side frame rail. Next, remove the front wheels and tires from both sides.

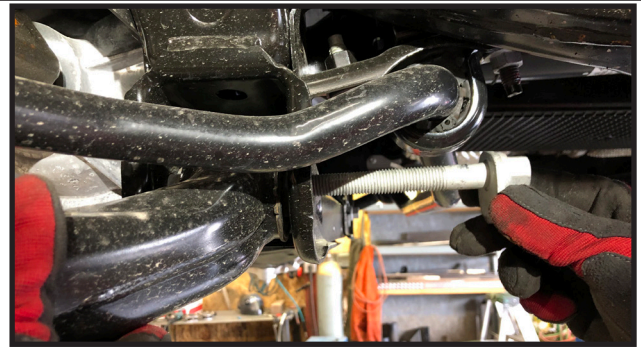
2. Remove the driver and passenger side lower strut mount nuts. Save hardware.



3. Remove the driver and passenger side lower control arm cam bolt nuts. Save hardware.



4. Remove the driver and passenger side cam bolts. Save hardware.



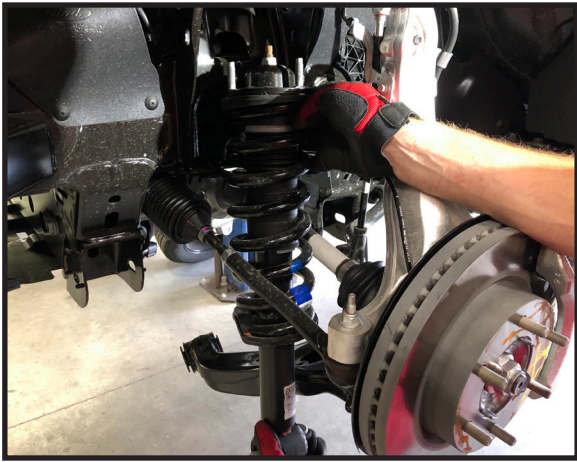
5. Lower the lower control arm out of the mounting pocket on the driver and passenger side.



6. Working on the top strut mounts. Remove the three nuts that holds the strut, and remove the strut. Careful the strut will fall if its not held when last nut is removed. Repeat on passenger side.



7. Mark which strut is driver side and which is passenger side.



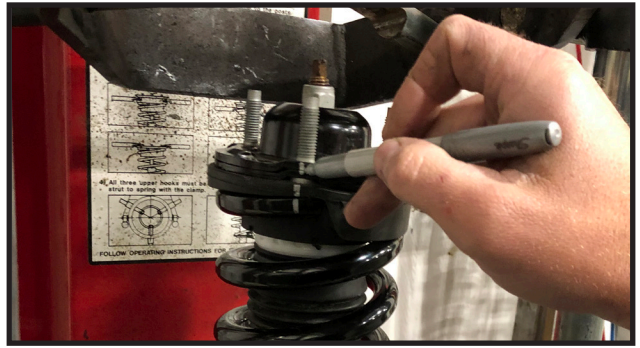
8. Using a hammer and a vice. Remove the two studs on the lower strut mount. Thread the nut on the stud to prevent damage to the stud. Save Hardware.



9. Using a wall mount strut compressor, Place strut in strut compressor.



10. Mark the coil and rubber isolator on the top of the strut.



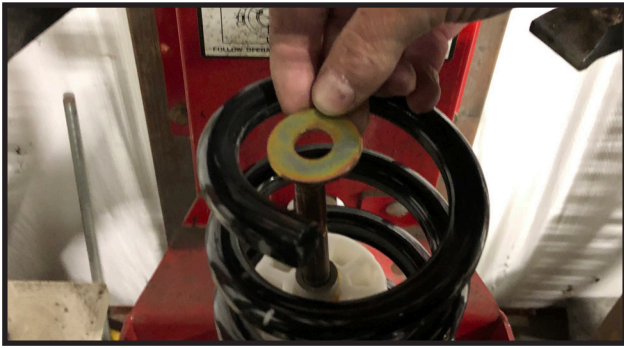
11. Mark the coil and lower coil spring seat



12. Remove the top hat retaining nut. Remove top hat from top of strut. Save rubber isolator.



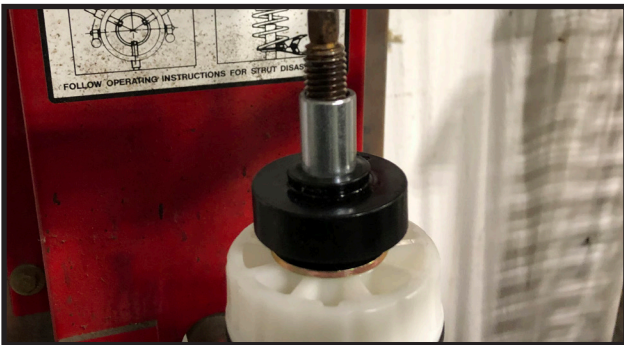
13. Locate part # S10305 washer and install onto the shock stud.



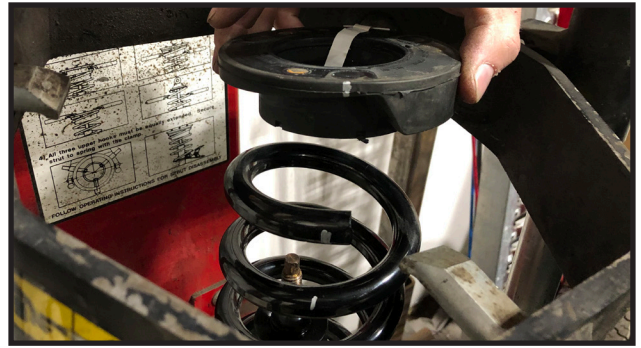
14. Locate part # M22706 poly bushing and part # S10295 Sleeve. Install one of the sleeves into one of the poly bushings.



15. install bushing and sleeve onto the shock stud so its on top of the washer.



16. Locate the strut rubber coil isolater and install it onto the top of the coil, Make sure to line your marks up.



17. Locate part # 23105-01 strut top hat. Intall top hat on top of the rubber isolater. Line up one of the studs on the top hat to your mark on the isolater.



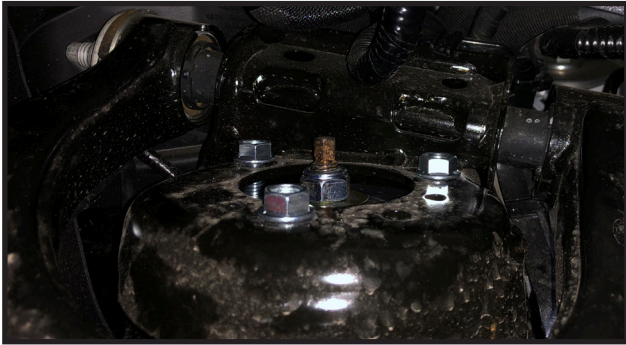
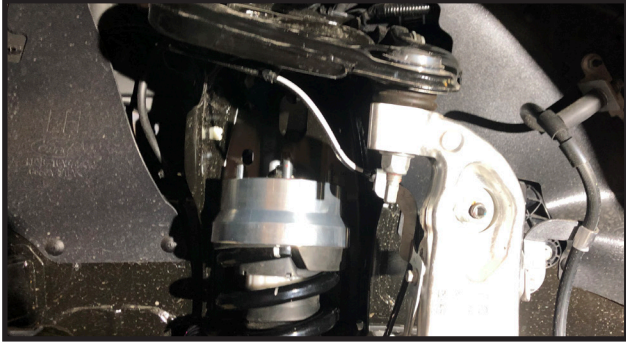
18. Using the strut compressor. Compress the top hat and coil, So the shock stud is coming through the hole in the top hat.



19. Locate part # M22706 poly bushing, S10305 washer and M12NLN 12 MM nylock nut. install them onto the shock stud. Tighten tell nut bottoms out.



20. Locate part # 38FLN 3/8 flange nut. Re install strut into top strut mount, Using 3 three of the 38FLN. leave loose for now.



21. On driver and passenger, Raise the lower control arm up to the lower strut mount. Locate the OME lower studs and nuts. Install them into the strut and lower control arm. Leave loose



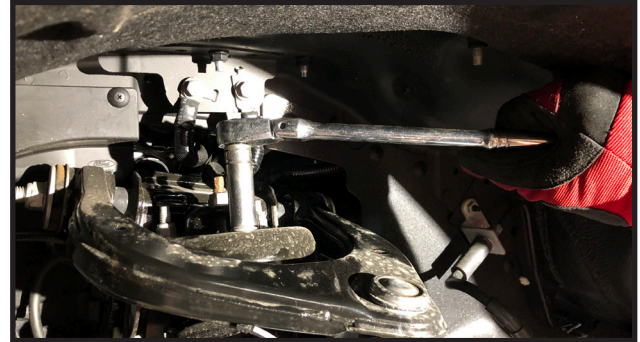
22. Locate OEM lower control arm cam bolt hardware. Using a jack, Raise lower control arms into frame mounts. Install front and rear cam bolts and nuts into lower control arm mounts. Leave loose.



23. Tighten the lower strut studs till they are pulled in all the way in flush. Back nut off one turn, Then Tighten to **90ft t lbs.**



24. Working on the top strut mounts. Tighten the three nuts to **30 ft-lbs**



25. Re-install the tires and wheels and torque the lug nuts to the wheel manufacturer's specifications.

Carefully lower the vehicle back down to the ground and remove the jacks.

26. Now tightent the lower control arm cam bolts to **120 ft-lbs**



Front end Installation Complete!

Rear end Installation:

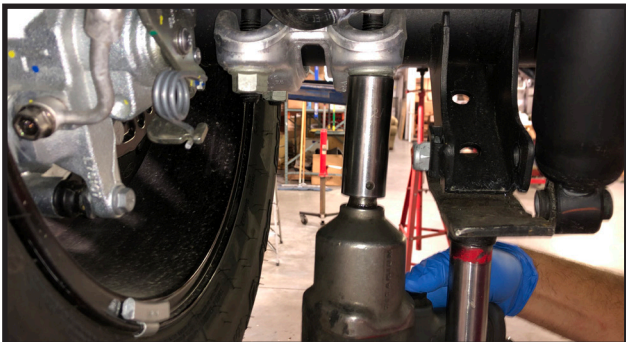
27. To begin installation, block the front tires of the vehicle so that the vehicle is stable and can't roll. Safely lift the rear of the vehicle and support the vehicle with a pair of jack stands. Place a jack stand on both the driver and the passenger side frame rail. Next, remove the rear wheels and tires from both sides.

28. place jack under driver side of rear axle. Its not required to replace the rear shocks with this lift. If relplacing rear shocks, Tuff Country Reccomends a 26" long shock.

29. If replacing rear shocks remove the shocks at this time. if your not replacing them remove the lower shock bolt only.



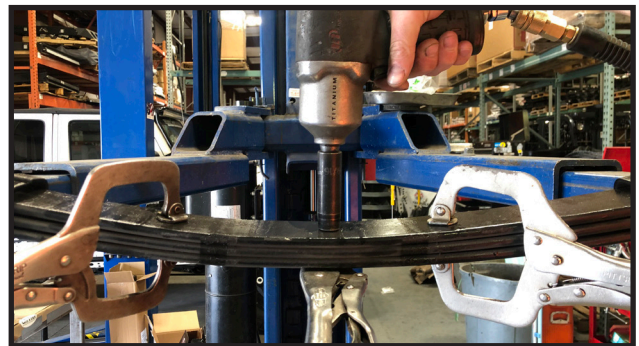
30. Remove ubolts and hardware,



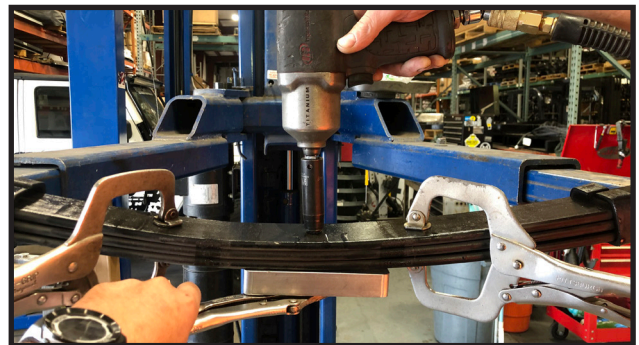
31. Lower axle down from leaf spring. There is a spacer plate on the bottem of the spring. Make sure that goes back in the same spot.



32. Using two C Clamps and vise grips remove center pin from leaf spring.



33. Locate part # 23105-02 rear block and cb38 hardware bag. Using the ceter pin from cb38 hardware bag, bolt 23105-02 to the bottem of the leaf spring. Tighten to **35 ft-lbs.**



34. Raise the rear axle up to the block and spring. Locate part # 5U-247s and part # 916nw. install new ubolts and hardware. Dont tighten at this time. Repeat steps 28-34 on passenger side. Once passenger side is completed, Tighnten ubolts to **90 ft-lbs.**



35. Re install lower shock mount. If replacong shocks. install new shocks.

Re-install the tires and wheels and torque the lug nuts according to the wheel manufacture's specs. Carefully lower the vehicle back down to the ground.

Installation Complete!

Check and double check to make sure that all steps were performed properly. After the completion of this install, Tuff Country Recommends taking the vehicle in for a complete front end alignment.

Tuff Country EZ-Ride Suspension recommends that a complete re-torque is done on all bolts associated with this suspension system. It is the customers responsibility to make sure that a re-torque is performed on all hardware associated with the system after the first 100 miles of installion. It is also the Customers responsibility to do a complete re-torque after every 3,000 miles or after every off road use. Neglect of following these steps could cause brackets to come loose and cause serious damage to the suspension system and to the vehicle.